## AMENDMENTS IN THE CLAIMS

1. (currently amended) A system for periodically moving information units from a plurality of sources to an output destination of a data transmission network ~~based on information stored about each of the plurality of sources~~, the system comprising:

a time-based calendar which handles scheduling of a first set of the information units with minimum bandwidth and best effort peak rate requirements, said scheduling based on [[the]] information related to ~~stored about~~ the plurality of sources and provides calculated times for scheduling each of the plurality of sources via queues that contain a flow, wherein the plurality of sources include a plurality of queues representing respective ones of the sources and wherein each queue holds a number of informational units, one or more of which may be dispatched from the respective queue when the queue is in a current time position at which a time pointer points;

a time-independent calendar which handles scheduling of a remaining set of the information units that are not within the first set, said time-independent calendar handling the scheduling of the remaining set based on information stored about the plurality of sources and which places each source into a calendar location and moves the source to a different place in the time-independent calendar of lower priority relative to a current calendar location of the source after servicing the source;

a mechanism for: (a) ~~determining~~ when a flow is added to an empty queue of a [[the]] first source at a current scheduling time, determining whether that first source, which was previously assigned [[at]] a first location in the time-based calendar, and whether the first source would have been assigned a previously-calculated second location of lower time priority than the current scheduling time had the queue not gone empty following completion of information dispatch when the first source was at the first location; and (b) when the source would have been assigned a previously-calculated second location of lower time priority, then (1) preventing the source from being placed at a the current scheduling time or a third ~~second~~ location that is of higher priority than ~~ahead of~~ the previously-calculated second location in the time-based calendar and (2) placing the source at ~~a third location~~ a location selected from among the previously-calculated location [[or]] and a next location that is of lower priority than ~~after~~ the previously-calculated location within the time-based calendar; and



PAGE 3/14 * RCVD AT 5/7/2007 8:04:53 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/15 * DNIS:2738300 * CSID:5123436446 * DURATION (mm-ss):04-46

means for automatically servicing the source by causing a frame consisting of the informational unit(s) to be transmitted from said source to the output destination when a pointer of the time-based calendar points to the ~~third~~ location at which the source is currently located.

2. Canceled

3. (previously canceled)

4. (previously canceled)

5. (currently amended) The system of claim 1 wherein the plurality of sources include a plurality of queues representing respective ones of the sources and wherein each queue holds a number of informational units, one or more of which may be dispatched from the respective source when the source is in a current time position at which the time pointer points.

6. (currently amended) The system of claim 5 wherein the calculated ~~location~~ position includes the ~~location whereat~~ position at which the queue of the source would have been attached within the time-based calendar, upstream from the ~~location whereat~~ position at which said queue was last serviced.

7. (currently amended) The [[method]] system of claim [[2]] 1 wherein said mechanism ~~using~~ includes logic for attaching [[the]] a queue of the source to the selected position ~~location~~.

8. (currently amended) The [[method]] system of claim [[7]] 1, wherein the ~~stored~~ information includes time stamps identifying a time at which the queue of the source is attached to the position within the time-based calendar.

9. Canceled



PAGE 4/14 * RCVD AT 5/7/2007 8:04:53 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/15 * DNIS:2738300 * CSID:5123436446 * DURATION (mm-ss):04-46

10. (currently amended) A method for servicing data flows placed into a queue, said method comprising:

providing at least one time-based calendar having a plurality of locations and a time pointer moving relative to the plurality of locations as a result of scheduler ticks, each tick measured as a predetermined ratio of elapse time per pre-set number of bytes transmitted;

attaching [[a]] the queue to a first calendar location ~~whereat the time pointer is pointing~~;

when the time pointer is pointing to the first calendar location, servicing said queue by causing a frame to be transmitted from said queue ~~whereupon said queue goes empty~~;

updating a location of the time pointer to service a next, later location within the time-based calendar;

identifying a second location ~~whereat~~ within the time based calendar at which the queue would ~~have been~~ be re-attached ~~had~~ if the queue is not ~~gone~~ empty;

examining pre-defined characteristics associated with said queue to determine occupancy frames within said queue;

~~if examination indicates~~ when the queue is not empty, identifying a current location ~~whereat~~ at which the time pointer points;

~~correlating the current location of the time pointer and the second location;~~

selecting a location which is not earlier than the second location to re-attach the queue, wherein when the current location of the time pointer is not earlier than the second location, the queue is reattached at the current location of the time pointer and when the current location is earlier than the second location, the queue is re-attached at the second location; and

automatically servicing a data flow of the queue by causing a frame to be transmitted from said queue to an output destination when the time pointer of the time-based calendar points to the location at which the queue is ~~currently~~ re-attached.

11. (previously presented) The method of claim 10 wherein the un-empty queue is attached to the selected location.

12. (currently amended) The method of claims 10 or 11 wherein the queue is attached by writing the [[i.d. (]]Identification number[[)]] of said queue in a stack located at each location.



PAGE 5/14 * RCVD AT 5/7/2007 8:04:53 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/15 * DNIS:2738300 * CSID:5123436446 * DURATION (mm-ss):04-46

13. (previously presented) The method of claim 12 wherein the stack is a Last In First Out (LIFO) stack.

14. (New) The method of Claim 10, further comprising:

when the queue is empty and receives a service flow, calculating a new location in the calendar for the queue;

determining whether the queue was previously attached at a first location in the calendar and whether a second location was previously calculated;

when the queue was previously attached at the first location, retrieving the previously-calculated second location within the calendar for re-attaching the queue;

determining whether the new location that would be presently assigned to the queue is earlier than the pre-calculated second location within the calendar;

re-attaching the queue at the selected one of the new location and the previously-calculated, second location, wherein:

if the new location is earlier than the previously-calculated, second location, assigning the previously-calculated, second location to the queue; and

if the new location is not earlier than the previously-calculated, second location, assigning the new location to queue;

when the time pointer points to the location at which the queue is re-attached, automatically servicing the data flows of the queue by causing a frame consisting of informational unit(s) to be transmitted from said queue to an output destination when the time pointer of the time-based calendar points to the location at which the queue is currently located, wherein said time based calendar schedules packets/frames with minimum bandwidth and best effort peak rate requirements.

15. (New) The method of Claim 10, wherein the selected location to re-attach the queue is the current location when the current location is not earlier than the second location.

16. (New) The method of Claim 10, further comprising scheduling a plurality of request for service utilizing a last-in-first out mechanism to schedule a last received request to transmit first during a time slot within the calendar allocated to the particular queue.



PAGE 6/14 * RCVD AT 5/7/2007 8:04:53 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/15 * DNIS:2738300 * CSID:5123436446 * DURATION (mm-ss):04-46

17. (New) The method of Claim 10, wherein said time based calendar is divided into a plurality of epochs, having an associated priority relative to each other and respective timing characteristics for scheduling, said method comprising processing a flow within a higher priority epoch before a flow within a lower priority epoch for a particular location within the calendar.

18. (New) The method of Claim 17, further comprising converting a current time into a location within the time based calendar, said converting comprising an examination of the current time along with scaling factors between epochs.

19. (New) The system of Claim 1, wherein the time-based calendar is a weighted fair queuing calendar, said method further comprising performing said calculating of the second location using a slot distance to adjust for a size of a frame and a queue weight.

20. (New) The system of Claim 1, wherein said time based calendar is divided into a plurality of epochs, having an associated priority relative to each other and respective timing characteristics for scheduling, wherein a flow within a higher priority epoch is processed before a flow within a lower priority epoch for a particular location within the calendar.

21. (New) The system of Claim 1, further comprising a plurality of flow control structures utilized to maintain ordered lists of frames that share common system characteristics based on assignment, said characteristics comprising: minimum bandwidth, peak bandwidth, best effort bandwidth and maximum burst size quality of service.



PAGE 7/14 * RCVD AT 5/7/2007 8:04:53 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/15 * DNIS:2738300 * CSID:5123436446 * DURATION (mm-ss):04-46